

Annals of Telecommunications



Call for papers
Special Issue on

Intelligent Wireless Communication Networks: Trends and Emerging Research Directions

Guest Editors

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Intelligent wireless communication networks perform a vital role in transferring data between physical devices without any wired connections. This data transmission may involve satellite, infrared, microwave, broadband wireless, two-way radio, or free-space optics that readily provide real-time access of information to the network users. They also support mobility that enhances service opportunities and increased productivity that is not viable through wired network systems. With the help of such a smart networked system, speed, flexible, simple, and scalable infrastructures are made possible. Moreover, such intelligent systems offer possibilities which could (adversely) influence various fields like education, the automobile industry, traffic management, health care services, logistics, and much more. These applications could be made accessible by integrating different kinds of advanced technologies including cellular networks (5G and more), the internet of things, artificial intelligence, cloud computing, big data analytics, etc. In addition, these technologies could offer many advantages like portability, better global coverage, reduced human interaction, transparent service provision, and much more. Considering the positive roles of intelligent communication networks they could transform the forthcoming smart world to the next level.

The absence of physical links between computing devices like smartphones, televisions, air conditioners, vehicles, etc. has rapidly increased the standard of communication networks. Without substantial fixed infrastructure, smart wireless networks claim to offer stability while delivering a large volume of information. Despite having more accessible benefits, such a wireless networked system also possesses many disadvantageous factors. To begin with, integration of heterogeneous data, privacy and security threats, routing resource and power management issues, complexities in network configurations, etc. are some issues

that compromise the progression of this intelligent network system. Consequently, these difficulties make clear that only a well-equipped networked system could potentially satisfy the future needs of the endless communication between the devices.

On account of these essential roles, it is important to bring changes in these wireless infrastructures by inviting researchers, academicians, and other institutional participants scattered across this domain to imagine their ideal solutions. Therefore, this special issue, "Intelligent Wireless Communication Networks: Trends and Emerging Research Directions" welcomes researchers across the globe to contribute their creative works towards a more productive wireless communication system.

List of topics include, but not limited to the following:

- ✚ AI-driven anomaly detection in intelligent wireless communication networks
- ✚ Performance evaluation of wireless communications using machine learning algorithms
- ✚ Distributed machine learning algorithms for intelligent network visualization
- ✚ Intelligent adaptive sensing using cloud support communications
- ✚ Decentralized learning for intelligent wireless communication systems
- ✚ Wireless communication systems using neural networks and machine learning
- ✚ Multi-carrier communication network modules: Channel modelling and estimation
- ✚ Cognitive radio and spectrum sensing for smart wireless communications
- ✚ Smart wireless communication networks using big data analytics
- ✚ Intelligent wireless communication systems using hybrid satellite terrestrial networks

Submission Guidelines:

All submissions have to be prepared according to the Guide for Authors as published in the Journal website at:

<https://www.springer.com/journal/12243/submissionguidelines>

Authors should submit online at:

<https://www.editorialmanager.com/ante/>

by selecting "SI: Intelligent Wireless Communication Networks: Trends and Emerging Research Directions" from the "Special Issues" pull-down menu during the submission process.

All contributions must not have been previously published or be under consideration for publication elsewhere.

All papers will be peer-reviewed by at least two independent reviewers.

Proposed Schedule

Submission deadline: March 20th, 2023
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Revised version submission: Sep 24th, 2023
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